

## SEOUENCE LISTING

<110> Pramod K. Srivastava <120> ALPHA(2) MACROGLOBULIN RECEPTOR AS A HEAT SHOCK PROTEIN RECEPTOR AND USES THEREOF <130> 8449-134 <140> <141> <150> 09/750,972 <151> 2000-12-28 <150> 09/668,724 <151> 2000-09-22 <160> 57 <170> FastSEQ for Windows Version 3.0 <210> 1 <211> 14849 <212> DNA <213> Mus musculus

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                                                                     13860
tacaagatgt atgaaggtgg agagcccgat gatgtcgggg gcctactgga tgctgatttt
                                                                     13920
gcccttgacc ctgacaagcc taccaacttc accaacccag tgtatgccac gctctacatg
                                                                     13980
gggggccacg gcagccgcca ttccctggcc agcacggacg agaagcgaga actgctgggc
                                                                     14040
cggggacctg aagacgagat aggagatccc ttggcatagg gccctgcccc gacggatgtc
                                                                     14100
cccagaaagc cccctgccac atgagtcttt caatgaaccc cctccccagc cggcccttct
                                                                     14160
ccggccctgc cgggtgtaca aatgtaaaaa tgaaggaatt actttttata tgtgagcgag
                                                                     14220
caagegagea ageacagtat tatetetttg cattleette etgeetgete etcagtatee
                                                                     14280
cccccatgct gccttgaggg ggcggggagg gctttgtggc tcaaaggtat gaaggagtcc
                                                                    14340
acatgttccc taccgagcat acccctggaa gcctggcggc acggcctccc caccacgcct
                                                                     14400
gtgcaagaca ctcaacgggg ctccgtgtcc cagctttcct ttccttggct ctctggggtt
                                                                     14460
agttcagggg aggtggagtc ctctgctgac cctgtctgga agatttggct ctagctgagg
                                                                     14520
aaggagtett ttagttgagg gaagteacce caaaccecag etcecaettt caggggeace
                                                                     14580
totcagatgg coatgetcag tatccettce agacaggece teccetetet agegececet
                                                                     14640
ctgtggctcc tagggctgaa cacattcttt ggtaactgtc ccccaagcct cccatcccc
                                                                     14700
tgagggccag gaagagtcgg ggcacaccaa ggaagggcaa gcgggcagcc ccattttggg
                                                                     14760
gacgtgaacg ttttaataat ttttgctgaa ttcctttaca actaaataac acagatattg
                                                                     14820
ttataaataa aattgtaaaa aaaaaaaaa
                                                                     14849
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Phe Ala Cys Arg Asp Gln Ile Thr Cys Ile Ser Lys Gly Trp Arg Cys 40 Asp Gly Glu Arg Asp Cys Pro Asp Gly Ser Asp Glu Ala Pro Glu Ile 55 Cys Pro Gln Ser Lys Ala Gln Arg Cys Pro Pro Asn Glu His Ser Cys 70 Leu Gly Thr Glu Leu Cys Val Pro Met Ser Arg Leu Cys Asn Gly Ile 90 Gln Asp Cys Met Asp Gly Ser Asp Glu Gly Ala His Cys Arg Glu Leu 105 Arg Ala Asn Cys Ser Arg Met Gly Cys Gln His His Cys Val Pro Thr 120 Pro Ser Gly Pro Thr Cys Tyr Cys Asn Ser Ser Phe Gln Leu Glu Ala 135 140 Asp Gly Lys Thr Cys Lys Asp Phe Asp Glu Cys Ser Val Tyr Gly Thr 155 150 Cys Ser Gln Leu Cys Thr Asn Thr Asp Gly Ser Phe Thr Cys Gly Cys 170 165 Val Glu Gly Tyr Leu Leu Gln Pro Asp Asn Arg Ser Cys Lys Ala Lys 185 Asn Glu Pro Val Asp Arg Pro Pro Val Leu Leu Ile Ala Asn Ser Gln 200 205 Asn Ile Leu Ala Thr Tyr Leu Ser Gly Ala Gln Val Ser Thr Ile Thr 215 220 Pro Thr Ser Thr Arg Gln Thr Thr Ala Met Asp Phe Ser Tyr Ala Asn 230 235 Glu Thr Val Cys Trp Val His Val Gly Asp Ser Ala Ala Gln Thr Gln 250 Leu Lys Cys Ala Arg Met Pro Gly Leu Lys Gly Phe Val Asp Glu His 265 Thr Ile Asn Ile Ser Leu Ser Leu His His Val Glu Gln Met Ala Ile 280 Asp Trp Leu Thr Gly Asn Phe Tyr Phe Val Asp Asp Ile Asp Asp Arg 295 300 Ile Phe Val Cys Asn Arg Asn Gly Asp Thr Cys Val Thr Leu Leu Asp 310 315 Leu Glu Leu Tyr Asn Pro Lys Gly Ile Ala Leu Asp Pro Ala Met Gly 330 Lys Val Phe Phe Thr Asp Tyr Gly Gln Ile Pro Lys Val Glu Arg Cys 345 Asp Met Asp Gly Gln Asn Arg Thr Lys Leu Val Asp Ser Lys Ile Val 360 Phe Pro His Gly Ile Thr Leu Asp Leu Val Ser Arg Leu Val Tyr Trp 375 Ala Asp Ala Tyr Leu Asp Tyr Ile Glu Val Val Asp Tyr Glu Gly Lys 390 395 Gly Arg Gln Thr Ile Ile Gln Gly Ile Leu Ile Glu His Leu Tyr Gly 410 Leu Thr Val Phe Glu Asn Tyr Leu Tyr Ala Thr Asn Ser Asp Asn Ala 425 Asn Thr Gln Gln Lys Thr Ser Val Ile Arg Val Asn Arg Phe Asn Ser 440 Thr Glu Tyr Gln Val Val Thr Arg Val Asp Lys Gly Gly Ala Leu His Ile Tyr His Gln Arg Arg Gln Pro Arg Val Arg Ser His Ala Cys Glu 470 475 Asn Asp Gln Tyr Gly Lys Pro Gly Gly Cys Ser Asp Ile Cys Leu Leu 490

Ala Asn Ser His Lys Ala Arg Thr Cys Arg Cys Arg Ser Gly Phe Ser 505 Leu Gly Ser Asp Gly Lys Ser Cys Lys Lys Pro Glu His Glu Leu Phe 520 Leu Val Tyr Gly Lys Gly Arg Pro Gly Ile Ile Arg Gly Met Asp Met 535 Gly Ala Lys Val Pro Asp Glu His Met Ile Pro Ile Glu Asn Leu Met 550 555 Asn Pro Arg Ala Leu Asp Phe His Ala Glu Thr Gly Phe Ile Tyr Phe 570 Ala Asp Thr Thr Ser Tyr Leu Ile Gly Arg Gln Lys Ile Asp Gly Thr 585 Glu Arg Glu Thr Ile Leu Lys Asp Gly Ile His Asn Val Glu Gly Val 600 Ala Val Asp Trp Met Gly Asp Asn Leu Tyr Trp Thr Asp Asp Gly Pro 615 620 Lys Lys Thr Ile Ser Val Ala Arg Leu Glu Lys Ala Ala Gln Thr Arg 630 635 Lys Thr Leu Ile Glu Gly Lys Met Thr His Pro Arg Ala Ile Val Val 645 650 Asp Pro Leu Asn Gly Trp Met Tyr Trp Thr Asp Trp Glu Glu Asp Pro 665 Lys Asp Ser Arg Arg Gly Arg Leu Glu Arg Ala Trp Met Asp Gly Ser 680 His Arg Asp Ile Phe Val Thr Ser Lys Thr Val Leu Trp Pro Asn Gly 695 Leu Ser Leu Asp Ile Pro Ala Gly Arg Leu Tyr Trp Val Asp Ala Phe 710 715 Tyr Asp Arg Ile Glu Thr Ile Leu Leu Asn Gly Thr Asp Arg Lys Ile 730 Val Tyr Glu Gly Pro Glu Leu Asn His Ala Phe Gly Leu Cys His His 745 Gly Asn Tyr Leu Phe Trp Thr Glu Tyr Arg Ser Gly Ser Val Tyr Arg 760 Leu Glu Arg Gly Val Ala Gly Ala Pro Pro Thr Val Thr Leu Leu Arg 775 780 Ser Glu Arg Pro Pro Ile Phe Glu Ile Arg Met Tyr Asp Ala His Glu 790 795 Gln Gln Val Gly Thr Asn Lys Cys Arg Val Asn Asn Gly Gly Cys Ser 810 Ser Leu Cys Leu Ala Thr Pro Gly Ser Arg Gln Cys Ala Cys Ala Glu 825 Asp Gln Val Leu Asp Thr Asp Gly Val Thr Cys Leu Ala Asn Pro Ser 840 Tyr Val Pro Pro Pro Gln Cys Gln Pro Gly Gln Phe Ala Cys Ala Asn 855 Asn Arg Cys Ile Gln Glu Arg Trp Lys Cys Asp Gly Asp Asn Asp Cys 870 875 Leu Asp Asn Ser Asp Glu Ala Pro Ala Leu Cys His Gln His Thr Cys 890 Pro Ser Asp Arg Phe Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn Arg 900 905 Trp Leu Cys Asp Gly Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu Ser 920 Asn Ala Thr Cys Ser Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser Cys 935 Ala Ser Gly Arg Cys Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp 950 955

Asp Cys Gly Asp Arg Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro Thr 970 Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile Asn 980 985 Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser Asp 1000 1005 Glu Ala Gly Cys Ser His Ser Cys Ser Ser Thr Gln Phe Lys Cys Asn 1015 1020 Ser Gly Arg Cys Ile Pro Glu His Trp Thr Cys Asp Gly Asp Asn Asp 1030 1035 Cys Gly Asp Tyr Ser Asp Glu Thr His Ala Asn Cys Thr Asn Gln Ala 1045 1050 1055 Thr Arg Pro Pro Gly Gly Cys His Ser Asp Glu Phe Gln Cys Pro Leu 1060 1065 1070 Asp Gly Leu Cys Ile Pro Leu Arg Trp Arg Cys Asp Gly Asp Thr Asp 1075 1080 1085 Cys Met Asp Ser Ser Asp Glu Lys Ser Cys Glu Gly Val Thr His Val 1090 1095 1100 Cys Asp Pro Asn Val Lys Phe Gly Cys Lys Asp Ser Ala Arg Cys Ile 1110 1115 Ser Lys Ala Trp Val Cys Asp Gly Asp Ser Asp Cys Glu Asp Asn Ser 1125 1130 1135 Asp Glu Glu Asn Cys Glu Ala Leu Ala Cys Arg Pro Pro Ser His Pro 1140 1145 1150 Cys Ala Asn Asn Thr Ser Val Cys Leu Pro Pro Asp Lys Leu Cys Asp 1155 1160 Gly Lys Asp Asp Cys Gly Asp Gly Ser Asp Glu Gly Glu Leu Cys Asp 1170 1175 1180 Gln Cys Ser Leu Asn Asn Gly Gly Cys Ser His Asn Cys Ser Val Ala 1185 1190 1195 Pro Gly Glu Gly Ile Val Cys Ser Cys Pro Leu Gly Met Glu Leu Gly 1210 Ser Asp Asn His Thr Cys Gln Ile Gln Ser Tyr Cys Ala Lys His Leu 1220 1225 Lys Cys Ser Gln Lys Cys Asp Gln Asn Lys Phe Ser Val Lys Cys Ser 1235 1240 1245 Cys Tyr Glu Gly Trp Val Leu Glu Pro Asp Gly Glu Thr Cys Arg Ser 1255 1260 Leu Asp Pro Phe Lys Leu Phe Ile Ile Phe Ser Asn Arg His Glu Ile 1265 1270 1275 1280 Arg Arg Ile Asp Leu His Lys Gly Asp Tyr Ser Val Leu Val Pro Gly 1290 Leu Arg Asn Thr Ile Ala Leu Asp Phe His Leu Ser Gln Ser Ala Leu 1300 1305 1310 Tyr Trp Thr Asp Ala Val Glu Asp Lys Ile Tyr Arg Gly Lys Leu Leu 1315 1320 1325 Asp Asn Gly Ala Leu Thr Ser Phe Glu Val Val Ile Gln Tyr Gly Leu 1330 1335 1340 Ala Thr Pro Glu Gly Leu Ala Val Asp Trp Ile Ala Gly Asn Ile Tyr 1350 1355 Trp Val Glu Ser Asn Leu Asp Gln Ile Glu Val Ala Lys Leu Asp Gly 1365 1370 Thr Leu Arg Thr Thr Leu Leu Ala Gly Asp Ile Glu His Pro Arg Ala 1380 1385 Ile Ala Leu Asp Pro Arg Asp Gly Ile Leu Phe Trp Thr Asp Trp Asp 1400 Ala Ser Leu Pro Arg Ile Glu Ala Ala Ser Met Ser Gly Ala Gly Arg 1415 1420

Arg Thr Ile His Arg Glu Thr Gly Ser Gly Gly Cys Ala Asn Gly Leu 1430 Thr Val Asp Tyr Leu Glu Lys Arg Ile Leu Trp Ile Asp Ala Arg Ser 1450 1445 Asp Ala Ile Tyr Ser Ala Arg Tyr Asp Gly Ser Gly His Met Glu Val 1465 1460 Leu Arg Gly His Glu Phe Leu Ser His Pro Phe Ala Val Thr Leu Tyr 1475 1480 1485 Gly Glu Val Tyr Trp Thr Asp Trp Arg Thr Asn Thr Leu Ala Lys 1495 1500 Ala Asn Lys Trp Thr Gly His Asn Val Thr Val Val Gln Arg Thr Asn 1515 1510 Thr Gln Pro Phe Asp Leu Gln Val Tyr His Pro Ser Arg Gln Pro Met 1525 1530 1535 Ala Pro Asn Pro Cys Glu Ala Asn Gly Gly Arg Gly Pro Cys Ser His 1540 1545 1550 Leu Cys Leu Ile Asn Tyr Asn Arg Thr Val Ser Trp Ala Cys Pro His 1555 1560 1565 Leu Met Lys Leu His Lys Asp Asn Thr Thr Cys Tyr Glu Phe Lys Lys 1570 1575 1580 Phe Leu Leu Tyr Ala Arq Gln Met Glu Ile Arq Gly Val Asp Leu Asp 1585 1590 1595 Ala Pro Tyr Tyr Asn Tyr Ile Ile Ser Phe Thr Val Pro Asp Ile Asp 1605 1610 1615 Asn Val Thr Val Leu Asp Tyr Asp Ala Arg Glu Gln Arg Val Tyr Trp 1620 1625 1630 Ser Asp Val Arg Thr Gln Ala Ile Lys Arg Ala Phe Ile Asn Gly Thr 1635 1640 Gly Val Glu Thr Val Val Ser Ala Asp Leu Pro Asn Ala His Gly Leu 1655 1660 Ala Val Asp Trp Val Ser Arg Asn Leu Phe Trp Thr Ser Tyr Asp Thr 1670 1675 1680 Asn Lys Lys Gln Ile Asn Val Ala Arg Leu Asp Gly Ser Phe Lys Asn 1690 1695 1685 Ala Val Val Gln Gly Leu Glu Gln Pro His Gly Leu Val Val His Pro 1700 1705 1710 Leu Arg Gly Lys Leu Tyr Trp Thr Asp Gly Asp Asn Ile Ser Met Ala 1715 1720 1725 Asn Met Asp Gly Ser Asn His Thr Leu Leu Phe Ser Gly Gln Lys Gly 1735 1740 Pro Val Gly Leu Ala Ile Asp Phe Pro Glu Ser Lys Leu Tyr Trp Ile 1745 1750 1755 Ser Ser Gly Asn His Thr Ile Asn Arg Cys Asn Leu Asp Gly Ser Glu 1770 1765 Leu Glu Val Ile Asp Thr Met Arg Ser Gln Leu Gly Lys Ala Thr Ala 1780 1785 1790 Leu Ala Ile Met Gly Asp Lys Leu Trp Trp Ala Asp Gln Val Ser Glu 1795 1800 Lys Met Gly Thr Cys Asn Lys Ala Asp Gly Ser Gly Ser Val Val Leu 1815 1820 Arg Asn Ser Thr Thr Leu Val Met His Met Lys Val Tyr Asp Glu Ser 1830 1835 Ile Gln Leu Glu His Glu Gly Thr Asn Pro Cys Ser Val Asn Asn Gly 1845 1850 Asp Cys Ser Gln Leu Cys Leu Pro Thr Ser Glu Thr Thr Arg Ser Cys 1865 Met Cys Thr Ala Gly Tyr Ser Leu Arg Ser Gly Gln Gln Ala Cys Glu 1880

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Gly Val Gly Ser Phe Leu Leu Tyr Ser Val His Glu Gly Ile Arg Gly
                  1895
Ile Pro Leu Asp Pro Asn Asp Lys Ser Asp Ala Leu Val Pro Val Ser
               1910
                              1915
Gly Thr Ser Leu Ala Val Gly Ile Asp Phe His Ala Glu Asn Asp Thr
                           1930
                                   1935
           1925
Ile Tyr Trp Val Asp Met Gly Leu Ser Thr Ile Ser Arg Ala Lys Arg
        1940 1945
                                        1950
Asp Gln Thr Trp Arg Glu Asp Val Val Thr Asn Gly Ile Gly Arg Val
     1955 1960
                                     1965
Glu Gly Ile Ala Val Asp Trp Ile Ala Gly Asn Ile Tyr Trp Thr Asp
   1970 1975 1980
Gln Gly Phe Asp Val Ile Glu Val Ala Arg Leu Asn Gly Ser Phe Arg
      1990 1995
Tyr Val Val Ile Ser Gln Gly Leu Asp Lys Pro Arg Ala Ile Thr Val
            2005 2010
His Pro Glu Lys Gly Tyr Leu Phe Trp Thr Glu Trp Gly His Tyr Pro
        2020 2025
                                        2030
Arg Ile Glu Arg Ser Arg Leu Asp Gly Thr Glu Arg Val Val Leu Val
     2035 2040 2045
Asn Val Ser Ile Ser Trp Pro Asn Gly Ile Ser Val Asp Tyr Gln Gly
       2055 2060
Gly Lys Leu Tyr Trp Cys Asp Ala Arg Met Asp Lys Ile Glu Arg Ile
     2070 2075
Asp Leu Glu Thr Gly Glu Asn Arg Glu Val Val Leu Ser Ser Asn Asn
            2085 2090
Met Asp Met Phe Ser Val Ser Val Phe Glu Asp Phe Ile Tyr Trp Ser
         2100
                        2105
Asp Arg Thr His Ala Asn Gly Ser Ile Lys Arg Gly Cys Lys Asp Asn
2115 2120
                                    2125
Ala Thr Asp Ser Val Pro Leu Arg Thr Gly Ile Gly Val Gln Leu Lys
   2130 2135
                                  2140
Asp Ile Lys Val Phe Asn Arg Asp Arg Gln Lys Gly Thr Asn Val Cys
               2150
                               2155
Ala Val Ala Asn Gly Gly Cys Gln Gln Leu Cys Leu Tyr Arg Gly Gly
            2165
                            2170
Gly Gln Arg Ala Cys Ala Cys Ala His Gly Met Leu Ala Glu Asp Gly
                        2185
         2180
                                         2190
Ala Ser Cys Arg Glu Tyr Ala Gly Tyr Leu Leu Tyr Ser Glu Arg Thr
      2195
                     2200 2205
Ile Leu Lys Ser Ile His Leu Ser Asp Glu Arg Asn Leu Asn Ala Pro
   2210
                  2215
                                  2220
Val Gln Pro Phe Glu Asp Pro Glu His Met Lys Asn Val Ile Ala Leu
               2230
                               2235
Ala Phe Asp Tyr Arg Ala Gly Thr Ser Pro Gly Thr Pro Asn Arg Ile
            2245
                            2250
Phe Phe Ser Asp Ile His Phe Gly Asn Ile Gln Gln Ile Asn Asp Asp
         2260
                         2265
Gly Ser Gly Arg Thr Thr Ile Val Glu Asn Val Gly Ser Val Glu Gly
            2280
      2275
                                     2285
Leu Ala Tyr His Arg Gly Trp Asp Thr Leu Tyr Trp Thr Ser Tyr Thr
                  2295
                                  2300
Thr Ser Thr Ile Thr Arg His Thr Val Asp Gln Thr Arg Pro Gly Ala
               2310
                               2315
Phe Glu Arg Glu Thr Val Ile Thr Met Ser Gly Asp Asp His Pro Arg
                            2330
            2325
Ala Phe Val Leu Asp Glu Cys Gln Asn Leu Met Phe Trp Thr Asn Trp
         2340
                         2345
                                         2350
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Asn	Glu	Leu 2355		Pro	Ser	Ile	Met 2360	_	Ala	Ala	Leu	Ser 2365	_	Ala	Asn
TeV7	T. 🗕 11			Tle	Glu	Tare			Λrα	Thr	Pro	Asn		T.e.11	בומ
	2370	)				2375	5				2380	)			
Ile	Asp	His	Arg	Ala	Glu	Lys	Leu	Tyr	Phe	Ser	Asp	Ala	Thr	Leu	Asp
2385	5				2390	)				2395	5				2400
Lys	Ile	Glu	Arg	Cys 2409		Tyr	Asp	Gly	Ser 2410		Arg	Tyr	Val	Ile 2415	
Lys	Ser	Glu	Pro 2420		His	Pro	Phe	Gly 2425	Leu		Val	Tyr	Gly 2430		His
T7 -	Db -				Паст	7707	7) 20 00			77-7	~1 <sub>~</sub>	7\ >==			T
		2435	5	_	_		2440	)				Arg 2445	5		
Tyr	Val 2450	-	Ser	Asp	Met	Lys 2459		Leu	Arg	Val	Asp 2460	Ile	Pro	Gln	Gln
Pro	Met	Gly	Ile	Ile	Ala	Val	Ala	Asn	Asp	Thr	Asn	Ser	Cys	Glu	Leu
2465		_			2470				-	2475					2480
Ser	Pro	Cys	Arg	Ile 2485		Asn	Gly	Gly	Cys 2490		Asp	Leu	Cys	Leu 2495	
Thr	uic	Gln	G137			7 an	Cvc	Sar			G137	Gly	7 20		
			2500	)				2505	5				2510	)	
		2515	5				2520	)				Cys 2525	5		
Asp	Glu 2530		Glu	Cys	Ala	Asn 2535		Glu	Cys	Ile	Ser 2540	Phe	Ser	Leu	Thr
Cys 2545		Gly	Val	Ser	His 2550		Lys	Asp	Lys	Ser 2555		Glu	Lys	Pro	Ser 2560
		7	C	7			T	т	шь			<b>a</b> 1	a	7	
				2565	5				2570	)		Gln		2575	5
Gly	Arg	Cys	Val 2580		Asn	Met	Leu	Trp 2585	_	Asn	Gly	Val	Asp 2590		Cys
Gly	Asp	Gly 2595		Asp	Glu	Ile	Pro 2600	_	Asn	Lys	Thr	Ala 2605	_	Gly	Val
Gly	Glu 2610		Arg	Cys	Arg	Asp 2615		Ser	Cys	Ile	Gly 2620	Asn	Ser	Ser	Arg
	Asn		Phe	Val		Cys		Asp	Ala		Asp	Glu	Met	Asn	_
2625		m1	<b>.</b>	<b>G</b>	2630		m	D1	70	2635		**- 7	-	<b>a</b> 1	2640
				2645	5				2650	)		Val		2655	5
Leu	Phe	Gln	Pro	Cys	Glu	Arg	Thr	Ser	Leu	Cys	Tyr	Ala	Pro	Ser	Trp
			2660	)				2665	5				2670	)	
Val	Cys	Asp 2675		Ala	Asn	Asp	Cys 2680		Asp	Tyr	Ser	Asp 2685		Arg	Asp
Cys	Pro 2690		Val	Lys	Arg	Pro 2695		Cys	Pro	Leu	Asn 2700	Tyr	Phe	Ala	Cys
Dro			Δra	Cve	Tle			Ser	Trn	Thr		Asp	Tare	Glu	Δen
2705		Gry	Arg	Cys	2710		Mec	261	ттр	2715	_	Asp	пуъ	Giu	2720
		Glu	Asn	-	Glu		Glu	Thr		Cys		Lys	Phe	_	Ser
				2725			_	•	2730			_	_	2735	
Glu	Ala	Gln	Phe 2740		Cys	Gln	Asn	His 2745		Cys	Ile	Ser	Lys 2750		Trp
Leu	Cys	Asp 2755	_	Ser	Asp	Asp	Cys 2760	_	Asp	Gly	Ser	Asp 2765		Ala	Ala
His	Cys 2770	Glu		Lys	Thr	Cys 2775		Pro	Ser	Ser	Phe 2780	Ser	Cys	Pro	Gly
Thr			Cvs	Val	Pro			Tro	Len	Cvs		Gly	Asp	Livs	Asn
2785				v	2790		9	1		2795		- + y		-15	2800
		Aan	Glv	Δla			Ser	Va1	Thr			Cys	T,em	Ττιν	
СуБ	T11T	Aoh	сту	2805		GIU	SET	νат	2810		эту	Cyp	шец	2815	

Ser Thr Cys Asp Asp Arg Glu Phe Met Cys Gln Asn Arg Leu Cys Ile 2825 2820 Pro Lys His Phe Val Cys Asp His Asp Arg Asp Cys Ala Asp Gly Ser 2835 2840 2845 Asp Glu Ser Pro Glu Cys Glu Tyr Pro Thr Cys Gly Pro Asn Glu Phe 2855 2860 Arg Cys Ala Asn Gly Arg Cys Leu Ser Ser Arg Gln Trp Glu Cys Asp 2870 2875 Gly Glu Asn Asp Cys His Asp His Ser Asp Glu Ala Pro Lys Asn Pro 2890 2885 His Cys Thr Ser Pro Glu His Lys Cys Asn Ala Ser Ser Gln Phe Leu 2900 2905 2910 Cys Ser Ser Gly Arg Cys Val Ala Glu Ala Leu Leu Cys Asn Gly Gln 2915 2920 2925 Asp Asp Cys Gly Asp Gly Ser Asp Glu Arg Gly Cys His Val Asn Glu 2935 2940 Cys Leu Ser Arg Lys Leu Ser Gly Cys Ser Gln Asp Cys Glu Asp Leu 2945 2950 2955 Lys Ile Gly Phe Lys Cys Arg Cys Arg Pro Gly Phe Arg Leu Lys Asp 2965 2970 2975 Asp Gly Arg Thr Cys Ala Asp Leu Asp Glu Cys Ser Thr Thr Phe Pro 2980 2985 2990 Cys Ser Gln Leu Cys Ile Asn Thr His Gly Ser Tyr Lys Cys Leu Cys 2995 3000 3005 Val Glu Gly Tyr Ala Pro Arg Gly Gly Asp Pro His Ser Cys Lys Ala 3015 Val Thr Asp Glu Glu Pro Phe Leu Ile Phe Ala Asn Arg Tyr Tyr Leu 3030 3035 Arg Lys Leu Asn Leu Asp Gly Ser Asn Tyr Thr Leu Leu Lys Gln Gly 3045 3050 3055 Leu Asn Asn Ala Val Ala Leu Ala Phe Asp Tyr Arg Glu Gln Met Ile 3060 3065 3070 Tyr Trp Thr Gly Val Thr Thr Gln Gly Ser Met Ile Arg Arg Met His 3075 3080 Leu Asn Gly Ser Asn Val Gln Val Leu His Arg Thr Gly Leu Ser Asn 3095 3100 Pro Asp Gly Leu Ala Val Asp Trp Val Gly Gly Asn Leu Tyr Trp Cys 3105 3110 3115 3120 Asp Lys Gly Arg Asp Thr Ile Glu Val Ser Lys Leu Asn Gly Ala Tyr 3130 3135 3125 Arg Thr Val Leu Val Ser Ser Gly Leu Arg Glu Pro Arg Ala Leu Val 3140 3145 Val Asp Val Gln Asn Gly Tyr Leu Tyr Trp Thr Asp Trp Gly Asp His 3155 3160 Ser Leu Ile Gly Arg Ile Gly Met Asp Gly Ser Gly Arg Ser Ile Ile 3175 Val Asp Thr Lys Ile Thr Trp Pro Asn Gly Leu Thr Val Asp Tyr Val 3190 3195 Thr Glu Arg Ile Tyr Trp Ala Asp Ala Arg Glu Asp Tyr Ile Glu Phe 3210 Ala Ser Leu Asp Gly Ser Asn Arg His Val Val Leu Ser Gln Asp Ile 3220 3225 Pro His Ile Phe Ala Leu Thr Leu Phe Glu Asp Tyr Val Tyr Trp Thr 3235 3240 3245 Asp Trp Glu Thr Lys Ser Ile Asn Arg Ala His Lys Thr Thr Gly Ala 3255 3260 Asn Lys Thr Leu Leu Ile Ser Thr Leu His Arg Pro Met Asp Leu His 3270 3275

Val Phe His Ala Leu Arg Gln Pro Asp Val Pro Asn His Pro Cys Lys 3290 Val Asn Asn Gly Gly Cys Ser Asn Leu Cys Leu Leu Ser Pro Gly Gly 3300 3305 Gly His Lys Cys Ala Cys Pro Thr Asn Phe Tyr Leu Gly Gly Asp Gly 3315 3320 3325 Arg Thr Cys Val Ser Asn Cys Thr Ala Ser Gln Phe Val Cys Lys Asn 3330 3335 3340 Asp Lys Cys Ile Pro Phe Trp Trp Lys Cys Asp Thr Glu Asp Asp Cys 3345 3350 3355 Gly Asp His Ser Asp Glu Pro Pro Asp Cys Pro Glu Phe Lys Cys Arg 3365 3370 3375 Pro Gly Gln Phe Gln Cys Ser Thr Gly Ile Cys Thr Asn Pro Ala Phe 3380 3385 3390 Ile Cys Asp Gly Asp Asn Asp Cys Gln Asp Asn Ser Asp Glu Ala Asn 3395 3400 3405 Cys Asp Ile His Val Cys Leu Pro Ser Gln Phe Lys Cys Thr Asn Thr 3410 3415 3420 Asn Arg Cys Ile Pro Gly Ile Phe Arg Cys Asn Gly Gln Asp Asn Cys 3425 3430 3435 3440 Gly Asp Gly Glu Asp Glu Arg Asp Cys Pro Glu Val Thr Cys Ala Pro 3445 3450 3455 Asn Gln Phe Gln Cys Ser Ile Thr Lys Arg Cys Ile Pro Arg Val Trp 3460 3465 3470 Val Cys Asp Arg Asp Asn His Cys Val Asp Gly Ser Asp Glu Pro Ala 3475 3480 Asn Cys Thr Gln Met Thr Cys Gly Val Asp Glu Phe Arg Cys Lys Asp 3490 3495 3500 Ser Gly Arg Cys Ile Pro Ala Arg Trp Lys Cys Asp Gly Glu Asp Asp 3510 3515 Cys Gly Asp Gly Ser Asp Glu Pro Lys Glu Glu Cys Asp Glu Arg Thr 3525 3530 Cys Glu Pro Tyr Gln Phe Arg Cys Lys Asn Asn Arg Cys Val Pro Gly 3540 3545 3550 Arg Trp Gln Cys Asp Tyr Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu 3555 3560 3565 Glu Ser Cys Thr Pro Arg Pro Cys Ser Glu Ser Glu Phe Phe Cys Ala 3575 3580 Asn Gly Arg Cys Ile Ala Gly Arg Trp Lys Cys Asp Gly Asp His Asp 3590 3595 3600 Cys Ala Asp Gly Ser Asp Glu Lys Asp Cys Thr Pro Arg Cys Asp Met 3605 3610 3615 Asp Gln Phe Gln Cys Lys Ser Gly His Cys Ile Pro Leu Arg Trp Pro 3620 3625 Cys Asp Ala Asp Ala Asp Cys Met Asp Gly Ser Asp Glu Glu Ala Cys 3635 3640 3645 Gly Thr Gly Val Arg Thr Cys Pro Leu Asp Glu Phe Gln Cys Asn Asn 3655 3660 Thr Leu Cys Lys Pro Leu Ala Trp Lys Cys Asp Gly Glu Asp Asp Cys 3665 3670 3675 Gly Asp Asn Ser Asp Glu Asn Pro Glu Glu Cys Ala Arg Phe Ile Cys 3685 3690 3695 Pro Pro Asn Arg Pro Phe Arg Cys Lys Asn Asp Arg Val Cys Leu Trp 3700 3705 Ile Gly Arg Gln Cys Asp Gly Val Asp Asn Cys Gly Asp Gly Thr Asp 3720 3725 Glu Glu Asp Cys Glu Pro Pro Thr Ala Gln Asn Pro His Cys Lys Asp 3735 3740

Lys Lys Glu Phe Leu Cys Arg Asn Gln Arg Cys Leu Ser Ser Leu 3755 Arg Cys Asn Met Phe Asp Asp Cys Gly Asp Gly Ser Asp Glu Glu Asp 3770 Cys Ser Ile Asp Pro Lys Leu Thr Ser Cys Ala Thr Asn Ala Ser Met 3780 3785 Cys Gly Asp Glu Ala Arg Cys Val Arg Thr Glu Lys Ala Ala Tyr Cys 3800 Ala Cys Arg Ser Gly Phe His Thr Val Pro Gly Gln Pro Gly Cys Gln 3815 3820 Asp Ile Asn Glu Cys Leu Arg Phe Gly Thr Cys Ser Gln Leu Trp Asn 3830 3835 Lys Pro Lys Gly Gly His Leu Cys Ser Cys Ala Arg Asn Phe Met Lys 3845 3850 3855 Thr His Asn Thr Cys Lys Ala Glu Gly Ser Glu Tyr Gln Val Leu Tyr 3860 3865 Ile Ala Asp Asp Asn Glu Ile Arg Ser Leu Phe Pro Gly His Pro His 3875 3880 3885 Ser Ala Tyr Glu Gln Thr Phe Gln Gly Asp Glu Ser Val Arg Ile Asp 3890 3895 3900 Ala Met Asp Val His Val Lys Ala Gly Arg Val Tyr Trp Thr Asn Trp 3905 3910 3915 39<sub>20</sub> His Thr Gly Thr Ile Ser Tyr Arg Ser Leu Pro Pro Ala Ala Pro Pro 3925 3930 Thr Thr Ser Asn Arg His Arg Arg Gln Ile Asp Arg Gly Val Thr His 3940 3945 Leu Asn Ile Ser Gly Leu Lys Met Pro Arg Gly Ile Ala Ile Asp Trp 3955 3960 3965 Val Ala Gly Asn Val Tyr Trp Thr Asp Ser Gly Arg Asp Val Ile Glu 3970 3975 3980 Val Ala Gln Met Lys Gly Glu Asn Arg Lys Thr Leu Ile Ser Gly Met 3990 3995 Ile Asp Glu Pro His Ala Ile Val Val Asp Pro Leu Arg Gly Thr Met 4010 Tyr Trp Ser Asp Trp Gly Asn His Pro Lys Ile Glu Thr Ala Ala Met 4025 Asp Gly Thr Leu Arg Glu Thr Leu Val Gln Asp Asn Ile Gln Trp Pro 4035 4040 Thr Gly Leu Ala Val Asp Tyr His Asn Glu Arg Leu Tyr Trp Ala Asp 4055 4060 Ala Lys Leu Ser Val Ile Gly Ser Ile Arg Leu Asn Gly Thr Asp Pro 4065 4070 4075 4080 Ile Val Ala Ala Asp Ser Lys Arg Gly Leu Ser His Pro Phe Ser Ile 4085 4090 Asp Val Phe Glu Asp Tyr Ile Tyr Gly Val Thr Tyr Ile Asn Asn Arg 4100 4105 Val Phe Lys Ile His Lys Phe Gly His Ser Pro Leu Tyr Asn Leu Thr 4115 4120 4125 Gly Gly Leu Ser His Ala Ser Asp Val Val Leu Tyr His Gln His Lys 4130 4135 4140 Gln Pro Glu Val Thr Asn Pro Cys Asp Arg Lys Lys Cys Glu Trp Leu 4150 4155 4160 Cys Leu Leu Ser Pro Ser Gly Pro Val Cys Thr Cys Pro Asn Gly Lys 4165 4170 Arg Leu Asp Asn Gly Thr Cys Val Pro Val Pro Ser Pro Thr Pro Pro 4180 4185 Pro Asp Ala Pro Arg Pro Gly Thr Cys Thr Leu Gln Cys Phe Asn Gly 4200

Gly	Ser 421		Phe	Leu	Asn	Ala 421		Arg	Gln	Pro	Lys 4220		Arg	Cys	Gln
Pro			Thr	Glv	Asn			Glu	T.e.11	Aen		-	Trn	Glu	Tur
422		- 7 -		O <sub>1</sub>	4230		Cyb	Olu	шец	423		Cys	111	Olu	4240
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 Thr Val Lys Met Leu Glu Arg Ser Asn His Val Ser Arg Thr Glu Val
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                                 105
 Ser Ser Asn His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln Thr
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 Leu Ser Leu Phe Phe Thr Val Leu Gln Asp Val Pro Val Arg Asp Leu
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 Lys Pro Ala Ile Val Lys Val Tyr Asp
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Gln Thr Leu Pro Gln Thr Cys Asp Glu Pro Lys Ala His Thr Ser Phe
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Gln Ile Ser Leu Ser Val Ser Tyr Thr Gly Ser Arg Ser Ala Ser Asn
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Met Ala Ile Val Asp Val Lys Met Val Ser Gly Phe Ile Pro Leu Lys
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Pro Thr Val Lys Met Leu Glu Arg Ser Asn His Val Ser Arg Thr Glu
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Val Ser Ser Asn His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln
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Thr Leu Ser Leu Phe Phe Thr Val Leu Gln Asp Val Pro Val Arg Asp
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Leu Lys Pro Ala Ile Val Lys Val Tyr Asp
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 Asn

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 Gly
 Cys
 Val
 Tyr
 Leu
 Gln
 Thr
 Ser
 Leu
 Lys
 Tyr
 Asn

 Val
 Glu
 Gly
 Cys
 Glu
 Pro
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 Ala
 Leu
 Gly
 Val
 Gln
 Thr

 Leu
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 Ala His Thr Ser Phe Gln Ile Ser Leu Ser Val Ser Tyr Thr Gly Ser
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 Arg Ser Ala Ser Asn Met Ala Ile Val Asp Val Lys Met Val Ser Gly
 Phe Ile Pro Leu Lys Pro Thr Val Lys Met Leu Glu Arg Ser Asn His
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 Val Ser Arg Thr Glu Val Ser Ser Asn His Val Leu Ile Tyr Leu Asp
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Lys Val Ser Asn Gln
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Phe Ala Leu Gly Val Gln Thr Leu Pro Gln Thr Cys Asp Glu Pro Lys
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                                25
Ala His Thr Ser Phe Gln Ile Ser Leu Ser Val Ser Tyr Thr Gly Ser
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Arg Ser Ala Ser Asn Met Ala Ile Val Asp Val Lys Met Val Ser Gly
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Phe Ile Pro Leu Lys Pro Thr Val Lys Met Leu Glu
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Gln Thr Ser Leu Lys Tyr Asn Ile Leu Pro Glu Lys Glu Glu Phe Pro
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Phe Ala Leu Gly Val Gln Thr Leu Pro Gln Thr Cys Asp Glu Pro Lys
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Ala His Thr Ser Phe Gln Ile Ser Leu Ser Val Ser Tyr Thr Gly Ser
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Arg Ser Ala Ser Asn Met Ala Ile
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 Ser Val Ser Tyr Thr Gly Ser Arg Ser Ala Ser Asn Met Ala Ile Val
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 Asp Val Lys Met Val Ser Gly Phe Ile Pro Leu Lys Pro Thr Val Lys
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 Met Leu Glu Arg Ser Asn His Val Ser Arg Thr Glu Val Ser Ser Asn
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 His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln
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Ser Val Ser Tyr Thr Gly Ser Arg Ser Ala Ser Asn Met Ala Ile Val
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Asp Val Lys Met Val Ser Gly Phe Ile Pro Leu Lys Pro Thr Val Lys
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Met Leu Glu Arg Ser Asn His Val Ser Arg Thr Glu Val Ser Ser Asn
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His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln
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Ser Val Ser Tyr Thr Gly Ser Arg Ser Ala Ser Asn Met Ala Ile
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Ser Asp Glu Ala Pro Glu Ile Cys Pro Gln Ser Lys
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 Ser Asp Glu Ala Pro Glu Ile Cys Pro Gln Ser Lys Ala Gln Arg Cys
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 Gln Pro Asn Glu His Asn Cys Leu Gly Thr Glu Leu Cys Val Pro Met
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 Ser Arg Leu Cys Asn Gly Val Gln Asp Cys Met Asp Gly Ser Asp Glu
 Gly Pro His Cys Arg Glu
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Lys Ala Gln Arg Cys Gln Pro Asn Glu His Asn Cys Leu Gly Thr Glu
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Leu Cys Val Pro Met Ser Arg Leu Cys Asn Gly Val Gln Asp Cys Met
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Asp Gly Ser Asp Glu Gly Pro His Cys Arg Glu
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Gln Cys Gln Pro Gly Glu Phe Ala Cys Ala Asn Ser Arg Cys Ile Gln
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Glu Arg Trp Lys Cys Asp Gly Asp Asn Asp Cys Leu Asp Asn Ser Asp
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Glu Ala Pro Ala Leu Cys His Gln His Thr
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Ala Arg

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Glu Ala Pro Ala Leu Cys His Gln His Thr Cys Pro Ser Asp Arg Phe
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 Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn Arg Trp Leu Cys Asp Gly
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 Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu Ser Asn Ala Thr Cys Ser
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                                        75
Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys
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Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg
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Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro
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Glu Arg Trp Lys Cys Asp Gly Asp Asn Asp Cys Leu Asp Asn Ser Asp
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Glu Ala Pro Ala Leu Cys His Gln His Thr Cys Pro Ser Asp Arg Phe
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Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn Arg Trp Leu Cys Asp Gly
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Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu Ser Asn Ala Thr Cys Ser
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Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys
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Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg
                                105
Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro Thr Cys Phe Pro Leu Thr
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Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile Asn Ile Asn Trp Arg Cys
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<212> PRT

<213> Homo sapiens

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 Glu Ala Pro Ala Leu Cys His Gln His Thr Cys Pro Ser Asp Arg Phe
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 Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn Arg Trp Leu Cys Asp Gly
 Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu Ser Asn Ala Thr Cys Ser
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 Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys
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 Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg
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                                105
 Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro Thr Cys Phe Pro Leu Thr
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 Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu Ala Gly Cys Ser
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                                155
His Ser Cys Ser Ser Thr Gln Phe Lys Cys Asn Ser Gly Arg Cys Ile
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Pro Glu His Trp Thr Cys Asp Gly Asp Asn Asp Cys Gly Asp Tyr Ser
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Glu Ala Pro Ala Leu Cys His Gln His Thr Cys Pro Ser Asp Arg Phe
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Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn Arg Trp Leu Cys Asp Gly
Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu Ser Asn Ala Thr Cys Ser
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Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys
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Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg
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Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro Thr Cys Phe Pro Leu Thr
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Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile Asn Ile Asn Trp Arg Cys
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 Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn Arg Trp Leu Cys Asp Gly
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 Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys
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 Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg
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Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu Ala Gly Cys Ser
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His Ser Cys Ser Ser Thr Gln Phe Lys Cys Asn Ser Gly Arg Cys Ile
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Pro Glu His Trp Thr Cys Asp Gly Asp Asn Asp Cys Gly Asp Tyr Ser
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Asp Glu Thr His Ala Asn Cys Thr Asn Gln Ala Thr Arg Pro Pro Gly
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Gly Cys His Thr Asp Glu Phe Gln Cys Arg Leu Asp Gly Leu Cys Ile
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Pro Leu Arg Trp Arg Cys Asp
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Arg Trp Leu Cys Asp Gly Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu
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Ser Asn Ala Thr Cys Ser Ala Arg
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Arg Trp Leu Cys Asp Gly Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu
Ser Asn Ala Thr Cys Ser Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser
Cys Ala Ser Gly Arg Cys Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp
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       <400> 32
 Cys Pro Ser Asp Arg Phe Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn
 Arg Trp Leu Cys Asp Gly Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu
 Ser Asn Ala Thr Cys Ser Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser
                             40
 Cys Ala Ser Gly Arg Cys Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp
                         55
Asp Asp Cys Gly Asp Arg Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro
                    70
                                        75
Thr Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile
                                    90
Asn Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser
            100
                                105
Asp Glu Ala Gly Cys Ser His
        115
      <210> 33
      <211> 166
      <212> PRT
      <213> Homo sapiens
      <400> 33
Cys Pro Ser Asp Arg Phe Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn
                                    10
Arg Trp Leu Cys Asp Gly Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu
            20
                                25
Ser Asn Ala Thr Cys Ser Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser
Cys Ala Ser Gly Arg Cys Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp
                        55
Asp Asp Cys Gly Asp Arg Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro
                   70
Thr Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile
               85
                                    90
Asn Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser
                                105
Asp Glu Ala Gly Cys Ser His Ser Cys Ser Ser Thr Gln Phe Lys Cys
                            120
Asn Ser Gly Arg Cys Ile Pro Glu His Trp Thr Cys Asp Gly Asp Asn
                        135
Asp Cys Gly Asp Tyr Ser Asp Glu Thr His Ala Asn Cys Thr Asn Gln
                   150
Ala Thr Arg Pro Pro Gly
      <210> 34
      <211> 108
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<212> PRT

<213> Homo sapiens

<400> 34

 Cys
 Pro
 Ser
 Asp
 Arg
 Phe
 Lys
 Cys
 Glu
 Asn
 Arg
 Cys
 Ile
 Pro
 Asn

 Arg
 Trp
 Leu
 Cys
 Asp
 Gly
 Asp
 Asp
 Asp
 Cys
 Gly
 Asp
 Ser
 Glu
 Asp
 Asp
 Glu
 Asp
 Asp

Asn Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys

<210> 35

<211> 289

<212> PRT

<213> Homo sapiens

<400> 35

Cys Pro Ser Asp Arg Phe Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn 10 Arg Trp Leu Cys Asp Gly Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu 25 Ser Asn Ala Thr Cys Ser Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser 40 Cys Ala Ser Gly Arg Cys Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro 75 Thr Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile 90 Asn Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser 105 Asp Glu Ala Gly Cys Ser His Ser Cys Ser Ser Thr Gln Phe Lys Cys 120 Asn Ser Gly Arg Cys Ile Pro Glu His Trp Thr Cys Asp Gly Asp Asn 135 Asp Cys Gly Asp Tyr Ser Asp Glu Thr His Ala Asn Cys Thr Asn Gln 150 155 Ala Thr Arg Pro Pro Gly Gly Cys His Thr Asp Glu Phe Gln Cys Arg 170 Leu Asp Gly Leu Cys Ile Pro Leu Arg Trp Arg Cys Asp Gly Asp Thr 185 190 Asp Cys Met Asp Ser Ser Asp Glu Lys Ser Cys Glu Gly Val Thr His 200 Val Cys Asp Pro Ser Val Lys Phe Gly Cys Lys Asp Ser Ala Arg Cys 215 Ile Ser Lys Ala Trp Val Cys Asp Gly Asp Asn Asp Cys Glu Asp Asn

Ser Asp Glu Glu Asn Cys Glu Ser Leu Ala Cys Arg Pro Pro Ser His

230

245

```
Pro Cys Ala Asn Asn Thr Ser Val Cys Leu Pro Pro Asp Lys Leu Cys
                                265
 Asp Gly Asn Asp Cys Gly Asp Gly Ser Asp Glu Gly Glu Leu Cys
 Asp
      <210> 36
      <211> 40
      <212> PRT
      <213> Homo sapiens
      <400> 36
Thr Cys Pro Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys Ile Pro
                                    10
Ile Ser Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg Ser Asp
         20
                                25
Glu Ser Ala Ser Cys Ala Tyr Pro
      <210> 37
      <211> 79
      <212> PRT
      <213> Homo sapiens
      <400> 37
Thr Cys Pro Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys Ile Pro
                5
Ile Ser Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg Ser Asp
Glu Ser Ala Ser Cys Ala Tyr Pro Thr Cys Phe Pro Leu Thr Gln Phe
                            40
Thr Cys Asn Asn Gly Arg Cys Ile Asn Ile Asn Trp Arg Cys Asp Asn
                        55
Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu Ala Gly Cys Ser His
      <210> 38
      <211> 126
      <212> PRT
      <213> Homo sapiens
     <400> 38
Thr Cys Pro Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys Ile Pro
Ile Ser Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg Ser Asp
Glu Ser Ala Ser Cys Ala Tyr Pro Thr Cys Phe Pro Leu Thr Gln Phe
                            40
Thr Cys Asn Asn Gly Arg Cys Ile Asn Ile Asn Trp Arg Cys Asp Asn
                        55
```

Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu Ala Gly Cys Ser His Ser

Cys Ser Ser Thr Gln Phe Lys Cys Asn Ser Gly Arg Cys Ile Pro Glu

His Trp Thr Cys Asp Gly Asp Asn Asp Cys Gly Asp Tyr Ser Asp Glu
100 105 110

Thr His Ala Asn Cys Thr Asn Gln Ala Thr Arg Pro Pro Gly

115 120 125

<210> 39

<211> 68

<212> PRT

<213> Homo sapiens

<400> 39

Asp Asn Asp Cys 65

<210> 40

<211> 248

<212> PRT

<213> Homo sapiens

<400> 40

Cys Pro Pro Asn Gln Phe Ser Cys Ala Ser Gly Arg Cys Ile Pro Ile 1 5 10 15 Ser Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg Ser Asp Glu

er Trp Thr Cys Asp Leu Asp Asp Asp Cys Gly Asp Arg Ser Asp Glu
20 25 30

Ser Ala Ser Cys Ala Tyr Pro Thr Cys Phe Pro Leu Thr Gln Phe Thr 35 40 45

Cys Asn Asn Gly Arg Cys Ile Asn Ile Asn Trp Arg Cys Asp Asn Asp 50 60

Asn Asp Cys Gly Asp Asn Ser Asp Glu Ala Gly Cys Ser His Ser Cys 65 70 75 80

Ser Ser Thr Gln Phe Lys Cys Asn Ser Gly Arg Cys Ile Pro Glu His 85 90 95

Trp Thr Cys Asp Gly Asp Asn Asp Cys Gly Asp Tyr Ser Asp Glu Thr 100 105 110

His Ala Asn Cys Thr Asn Gln Ala Thr Arg Pro Pro Gly Gly Cys His
115 120 125

Thr Asp Glu Phe Gln Cys Arg Leu Asp Gly Leu Cys Ile Pro Leu Arg 130 135 140

Trp Arg Cys Asp Gly Asp Thr Asp Cys Met Asp Ser Ser Asp Glu Lys
145 155 160

Ser Cys Glu Gly Val Thr His Val Cys Asp Pro Ser Val Lys Phe Gly
165 170 175

Cys Lys Asp Ser Ala Arg Cys Ile Ser Lys Ala Trp Val Cys Asp Gly
180 185

Asp Asn Asp Cys Glu Asp Asn Ser Asp Glu Glu Asn Cys Glu Ser Leu 195 200 205

Ala Cys Arg Pro Pro Ser His Pro Cys Ala Asn Asn Thr Ser Val Cys 210 215 220

Leu Pro Pro Asp Lys Leu Cys Asp Gly Asn Asp Asp Cys Gly Asp Gly 235 230 235

Ser Asp Glu Gly Glu Leu Cys Asp

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<210> 41
      <211> 39
      <212> PRT
      <213> Homo sapiens
     <400> 41
Thr Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile
                                    10
Asn Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser
                                25
         20
Asp Glu Ala Gly Cys Ser His
        35
      <210> 42
      <211> 86
      <212> PRT
      <213> Homo sapiens
     <400> 42
Thr Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile
                                    10
Asn Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser
                                25
            20
Asp Glu Ala Gly Cys Ser His Ser Cys Ser Ser Thr Gln Phe Lys Cys
                            40
Asn Ser Gly Arg Cys Ile Pro Glu His Trp Thr Cys Asp Gly Asp Asn
                        55
Asp Cys Gly Asp Tyr Ser Asp Glu Thr His Ala Asn Cys Thr Asn Gln
                    70
Ala Thr Arg Pro Pro Gly
      <210> 43
      <211> 169
      <212> PRT
      <213> Homo sapiens
     <400> 43
Thr Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile
                                    10
                                                        15
1
Asn Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser
Asp Glu Ala Gly Cys Ser His Ser Cys Ser Ser Thr Gln Phe Lys Cys
Asn Ser Gly Arg Cys Ile Pro Glu His Trp Thr Cys Asp Gly Asp Asn
                        55
Asp Cys Gly Asp Tyr Ser Asp Glu Thr His Ala Asn Cys Thr Asn Gln
                    70
Ala Thr Arg Pro Pro Gly Gly Cys His Thr Asp Glu Phe Gln Cys Arg
                                    90
Leu Asp Gly Leu Cys Ile Pro Leu Arg Trp Arg Cys Asp Gly Asp Thr
                                105
Asp Cys Met Asp Ser Ser Asp Glu Lys Ser Cys Glu Gly Val Thr His
                            120
```

140

Val Cys Asp Pro Ser Val Lys Phe Gly Cys Lys Asp Ser Ala Arg Cys

Ile Ser Lys Ala Trp Val Cys Asp Gly Asp Asn Asp Cys Glu Asp Asn

```
Ser Asp Glu Glu Asn Cys Glu Ser Leu
                165
      <210> 44
      <211> 209
      <212> PRT
      <213> Homo sapiens
      <400> 44
Thr Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile
                                 10
Asn Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser
Asp Glu Ala Gly Cys Ser His Ser Cys Ser Ser Thr Gln Phe Lys Cys
Asn Ser Gly Arg Cys Ile Pro Glu His Trp Thr Cys Asp Gly Asp Asn
                        55
Asp Cys Gly Asp Tyr Ser Asp Glu Thr His Ala Asn Cys Thr Asn Gln
                    70
                                        75
Ala Thr Arg Pro Pro Gly Gly Cys His Thr Asp Glu Phe Gln Cys Arg
                85
                                    90
Leu Asp Gly Leu Cys Ile Pro Leu Arg Trp Arg Cys Asp Gly Asp Thr
            100
                                105
Asp Cys Met Asp Ser Ser Asp Glu Lys Ser Cys Glu Gly Val Thr His
                            120
Val Cys Asp Pro Ser Val Lys Phe Gly Cys Lys Asp Ser Ala Arg Cys
                        135
Ile Ser Lys Ala Trp Val Cys Asp Gly Asp Asn Asp Cys Glu Asp Asn
                    150
                                        155
Ser Asp Glu Glu Asn Cys Glu Ser Leu Ala Cys Arg Pro Pro Ser His
                165
                                    170
Pro Cys Ala Asn Asn Thr Ser Val Cys Leu Pro Pro Asp Lys Leu Cys
                                185
                                                    190
Asp Gly Asn Asp Cys Gly Asp Gly Ser Asp Glu Gly Glu Leu Cys
Asp
      <210> 45
      <211> 47
      <212> PRT
     <213> Homo sapiens
     <400> 45
Ser Cys Ser Ser Thr Gln Phe Lys Cys Asn Ser Gly Arg Cys Ile Pro
Glu His Trp Thr Cys Asp Gly Asp Asn Asp Cys Gly Asp Tyr Ser Asp
Glu Thr His Ala Asn Cys Thr Asn Gln Ala Thr Arg Pro Pro Gly
```

<210> 46

<211> 89 <212> PRT

<213> Homo sapiens

<400> 46

Ser Cys Ser Ser Thr Gln Phe Lys Cys Asn Ser Gly Arg Cys Ile Pro

```
5
                                    10
Glu His Trp Thr Cys Asp Gly Asp Asn Asp Cys Gly Asp Tyr Ser Asp
                            25
Glu Thr His Ala Asn Cys Thr Asn Gln Ala Thr Arg Pro Pro Gly Gly
Cys His Thr Asp Glu Phe Gln Cys Arg Leu Asp Gly Leu Cys Ile Pro
Leu Arg Trp Arg Cys Asp Gly Asp Thr Asp Cys Met Asp Ser Ser Asp
Glu Lys Ser Cys Glu Gly Val Thr His
      <210> 47
      <211> 170
      <212> PRT
      <213> Homo sapiens
      <400> 47
Ser Cys Ser Ser Thr Gln Phe Lys Cys Asn Ser Gly Arg Cys Ile Pro
                                    10
Glu His Trp Thr Cys Asp Gly Asp Asn Asp Cys Gly Asp Tyr Ser Asp
                                25
Glu Thr His Ala Asn Cys Thr Asn Gln Ala Thr Arg Pro Pro Gly Gly
                            40
Cys His Thr Asp Glu Phe Gln Cys Arg Leu Asp Gly Leu Cys Ile Pro
                       55
Leu Arg Trp Arg Cys Asp Gly Asp Thr Asp Cys Met Asp Ser Ser Asp
                   70
                                       75
Glu Lys Ser Cys Glu Gly Val Thr His Val Cys Asp Pro Ser Val Lys
               85
                                   90
Phe Gly Cys Lys Asp Ser Ala Arg Cys Ile Ser Lys Ala Trp Val Cys
           100
                              105
Asp Gly Asp Asn Asp Cys Glu Asp Asn Ser Asp Glu Glu Asn Cys Glu
                          120
Ser Leu Ala Cys Arg Pro Pro Ser His Pro Cys Ala Asn Asn Thr Ser
                       135
Val Cys Leu Pro Pro Asp Lys Leu Cys Asp Gly Asn Asp Asp Cys Gly
                  150
                                        155
Asp Gly Ser Asp Glu Gly Glu Leu Cys Asp
      <210> 48
      <211> 42
      <212> PRT
     <213> Homo sapiens
     <400> 48
Gly Cys His Thr Asp Glu Phe Gln Cys Arg Leu Asp Gly Leu Cys Ile
Pro Leu Arg Trp Arg Cys Asp Gly Asp Thr Asp Cys Met Asp Ser Ser
                                25
Asp Glu Lys Ser Cys Glu Gly Val Thr His
        35
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<210> 49 <211> 83

<212> PRT

<213> Homo sapiens

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<400> 49
Gly Cys His Thr Asp Glu Phe Gln Cys Arg Leu Asp Gly Leu Cys Ile
 Pro Leu Arg Trp Arg Cys Asp Gly Asp Thr Asp Cys Met Asp Ser Ser
Asp Glu Lys Ser Cys Glu Gly Val Thr His Val Cys Asp Pro Ser Val
                             40
 Lys Phe Gly Cys Lys Asp Ser Ala Arg Cys Ile Ser Lys Ala Trp Val
Cys Asp Gly Asp Asn Asp Cys Glu Asp Asn Ser Asp Glu Glu Asn Cys
Glu Ser Leu
      <210> 50
      <211> 123
      <212> PRT
      <213> Homo sapiens
      <400> 50
Gly Cys His Thr Asp Glu Phe Gln Cys Arg Leu Asp Gly Leu Cys Ile
                                    10
Pro Leu Arg Trp Arg Cys Asp Gly Asp Thr Asp Cys Met Asp Ser Ser
           20
                                25
Asp Glu Lys Ser Cys Glu Gly Val Thr His Val Cys Asp Pro Ser Val
                            40
Lys Phe Gly Cys Lys Asp Ser Ala Arg Cys Ile Ser Lys Ala Trp Val
                        5.5
Cys Asp Gly Asp Asn Asp Cys Glu Asp Asn Ser Asp Glu Glu Asn Cys
                   70
Glu Ser Leu Ala Cys Arg Pro Pro Ser His Pro Cys Ala Asn Asn Thr
Ser Val Cys Leu Pro Pro Asp Lys Leu Cys Asp Gly Asn Asp Asp Cys
           100
                               105
Gly Asp Gly Ser Asp Glu Gly Glu Leu Cys Asp
      <210> 51
      <211> 41
      <212> PRT
      <213> Homo sapiens
      <400> 51
Val Cys Asp Pro Ser Val Lys Phe Gly Cys Lys Asp Ser Ala Arg Cys
Ile Ser Lys Ala Trp Val Cys Asp Gly Asp Asn Asp Cys Glu Asp Asn
Ser Asp Glu Glu Asn Cys Glu Ser Leu
      <210> 52
      <211> 81
      <212> PRT
      <213> Homo sapiens
     <400> 52
Val Cys Asp Pro Ser Val Lys Phe Gly Cys Lys Asp Ser Ala Arg Cys
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Ile Ser Lys Ala Trp Val Cys Asp Gly Asp Asn Asp Cys Glu Asp Asn
Ser Asp Glu Glu Asn Cys Glu Ser Leu Ala Cys Arg Pro Pro Ser His
                            40
Pro Cys Ala Asn Asn Thr Ser Val Cys Leu Pro Pro Asp Lys Leu Cys
                        55
Asp Gly Asn Asp Cys Gly Asp Gly Ser Asp Glu Gly Glu Leu Cys
                    70
Asp
      <210> 53
      <211> 40
      <212> PRT
      <213> Homo sapiens
      <400> 53
Ala Cys Arg Pro Pro Ser His Pro Cys Ala Asn Asn Thr Ser Val Cys
                5
                                   10
Leu Pro Pro Asp Lys Leu Cys Asp Gly Asn Asp Asp Cys Gly Asp Gly
         20
                                25
Ser Asp Glu Gly Glu Leu Cys Asp
        35
      <210> 54
      <211> 10
      <212> PRT
      <213> Homo sapiens
      <400> 54
Ser Gly Phe Ser Leu Gly Ser Asp Gly Lys
                                    10
     <210> 55
     <211> 10
      <212> PRT
      <213> Homo sapiens
     <400> 55
Gly Ile Ala Leu Asp Pro Ala Met Gly Lys
      <210> 56
      <211> 10
      <212> PRT
      <213> Homo sapiens
      <400> 56
Gly Gly Ala Leu His Ile Tyr His Gln Arg
                5
     <210> 57
     <211> 11
      <212> PRT
     <213> Homo sapiens
      <400> 57
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Val Phe Phe Thr Asp Tyr Gly Gln Ile Pro Lys 1 5